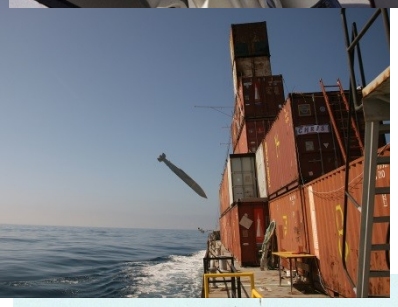
CRITICAL THINKING
One Program Manager's Perspective
CAPT Jaime Engdahl
7 April 2015

Achieving Dominant Capabilities through Technical Excellence and Innovation

Background



- **PMA-201 Program Manager, Precision Strike Weapons**
- **PMA-268 Program Manager, Navy UCAS Demonstration (X-47B)**
- **E-6B PM, Block I/IB Upgrade Program**
- **VX-23 National Test Lead, EA-18G Growler**
- **F/A-18 PM, Advanced Tactical FLIR (ATFLIR)**
- **Assistant Air Operations Officer, USS Abraham Lincoln (CVN-72)**
- **US Naval Test Pilot School Instructor**
- **Naval Strike Aircraft Test Squadron (EA-6B, UAV)**
- **US Naval Test Pilot School (Class 113)**
- **Naval Postgraduate School, MS Aeronautical Engineering**
- **onic Countermeasures Officer**

Critical Thinking Case Studies

- Communication and Strategic Planning
- Organizational Decision Making – Executive Leadership Teams
- Data driven decisions – Metrics, Critical Decisions
- Risk Management
- How does a PM make decisions
- Some General Thoughts on Program Managers and Critical Thinking

Kruger-Dunning Effect *"Unskilled and Unaware of It: How Difficulties in Recognizing One's Own Incompetence Lead to Inflated Self-Assessments"*

Leadership Challenge

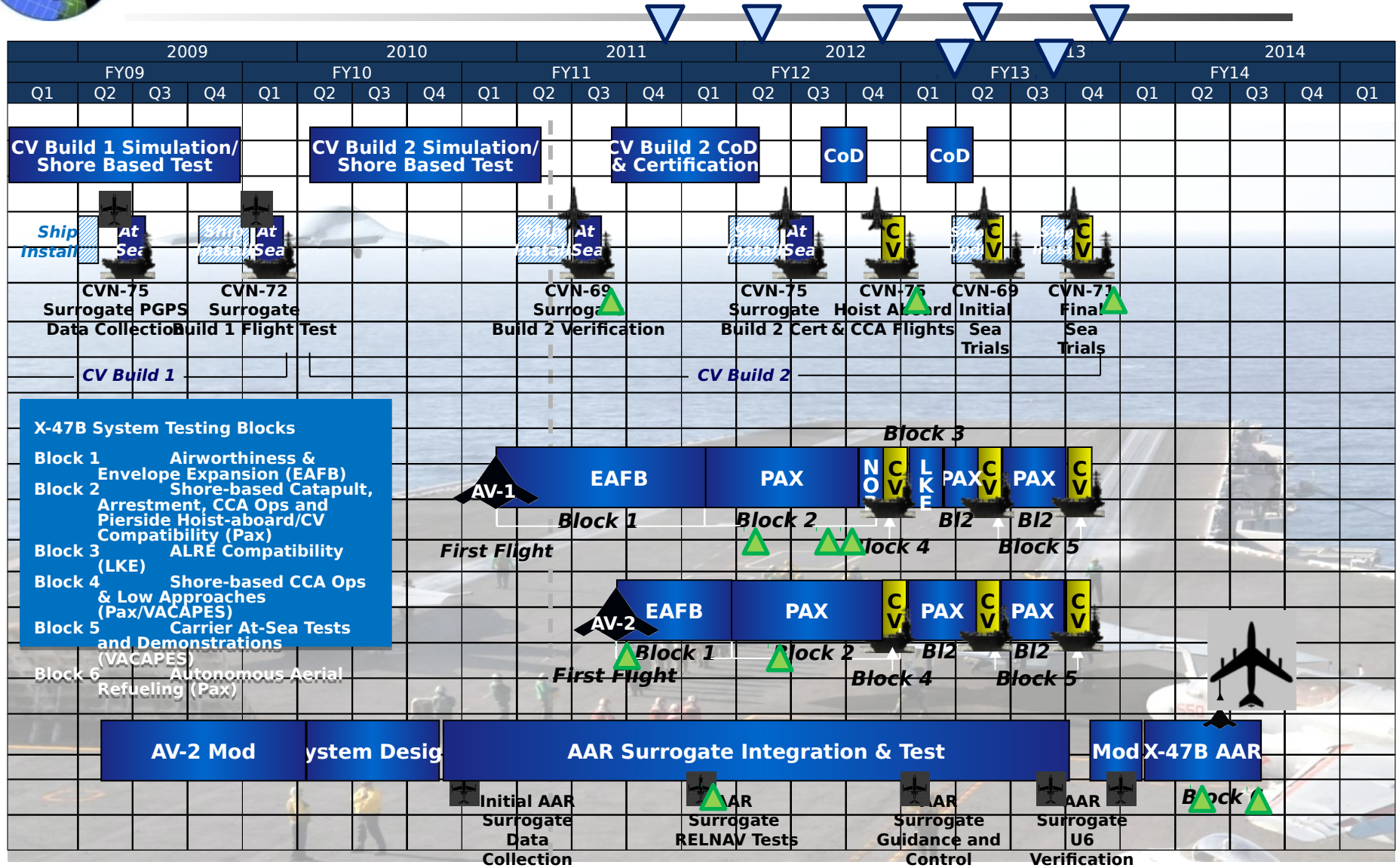
1. *Honest*
2. *Forward Looking*
3. *Competent*
4. *Inspiring*

Janus Effect *Reflecting on your past accomplishments can double your "Vision Horizon."*

Navy UCAS - X-47B and CV Segment
Advanced Technology Demonstration
A Platform for Innovative Acquisition and Leadership

Communication / Strategic Planning

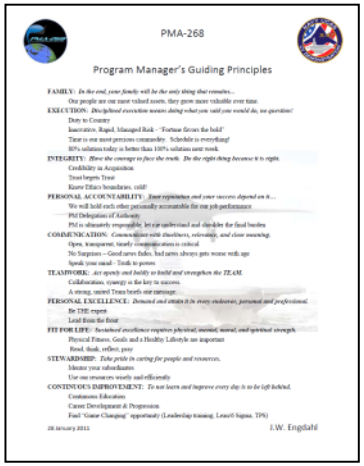
Feb 2011



Newsworthy Events Key Dates

Guiding Principles / Clear Program Message

- Credible Execution
  (Innovative, Rapid, with Managed Risk)
- Transparent, Timely, Relevant Communication
- Personal Accountability
- One TEAM
- Continuous Improvement


PMA-268

Program Manager's Guiding Principles

- Demonstration of Unmanned, Autonomous, Tailless Air Vehicle in the Carrier Environment
- CV Integration is unique and difficult
- AV-1 First Flight is the first major step toward a final CV Demo in 2013.
- UCAS-D and unmanned concepts are not a replacement for Naval Aviator, they are a niche solution for Persistence and Dull, Dirty, Dangerous missions...

PMA-268 ELT – Ask the Hard Questions

DAY SIX AS NAVY UCAS PROGRAM MANAGER

- 900 Days, $600M to Complete Technology Demo
- 18 Member Program Executive Leadership Team

SIX QUESTIONS……

1. What do we the ELT expect out of the PM?
2. What do we want the PM to know about the ELT?
3. Where do we need to improvement?
4. What are your concerns about new leadership?
5. What are the major obstacles that the Program Manager will face?
6. What are the 5 burning issues in the PMA?

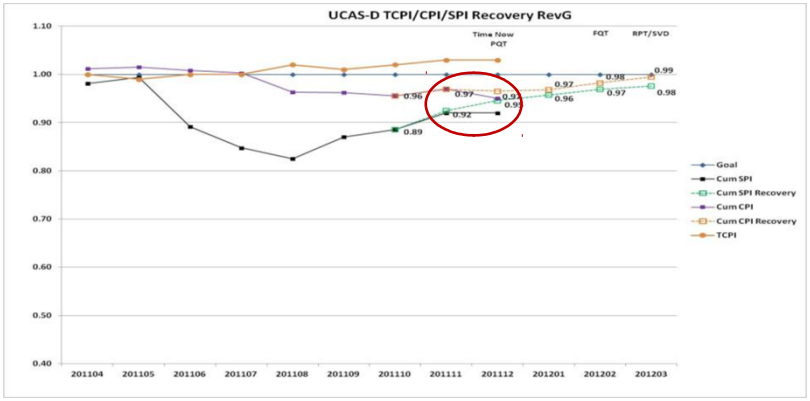
5 PMA Burning Issues

1. How do UCLASS and UCAS-D fit?
2. Ability to make program wide decisions
3. Solidifying the organization
4. Communication of Program wide schedule & pressures
5. Affordability

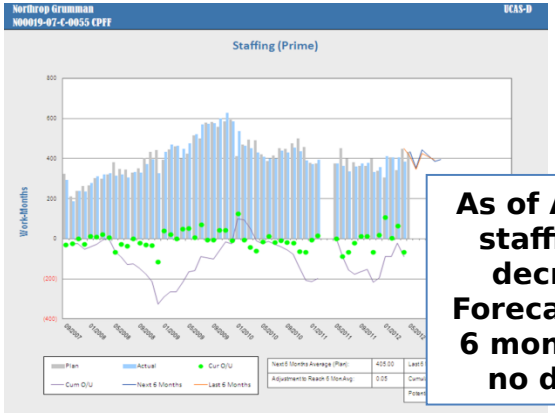
Fundamental Issue: Executive Leadership Team Did Not Have an Identity or Clear Definition of Responsibility, Authority, or Accountability

What Metrics Do You Use?

EVM Data - 01 Dec 2011

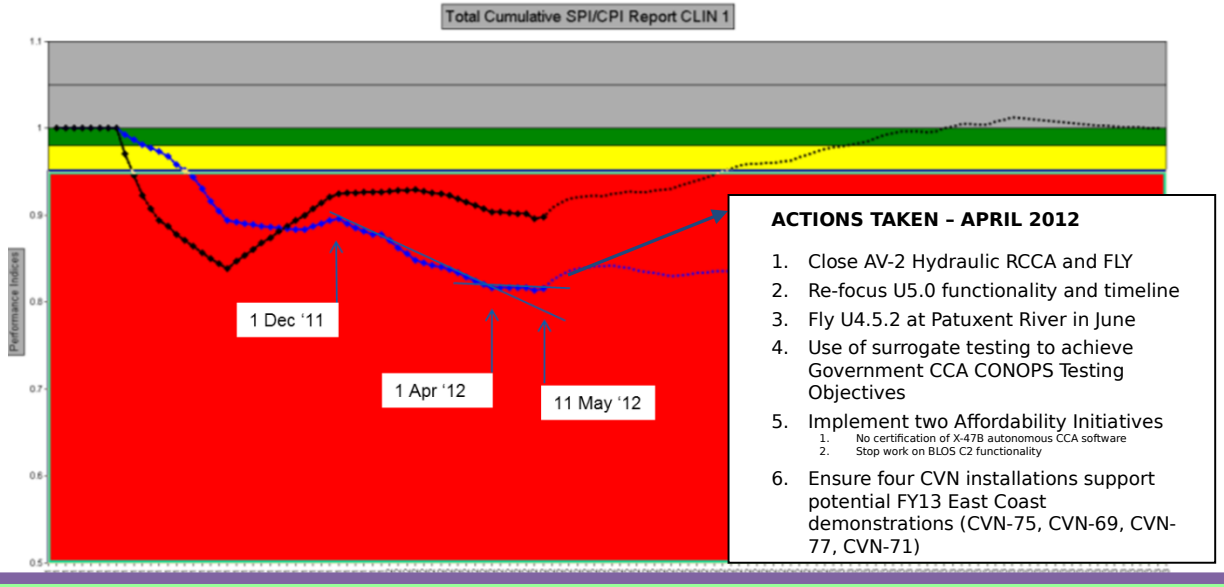


Monthly Staffing Snapshot – April 2012



As of April 2012, staffing is not decreasing. Forecast for next 6 months shows no decrease.

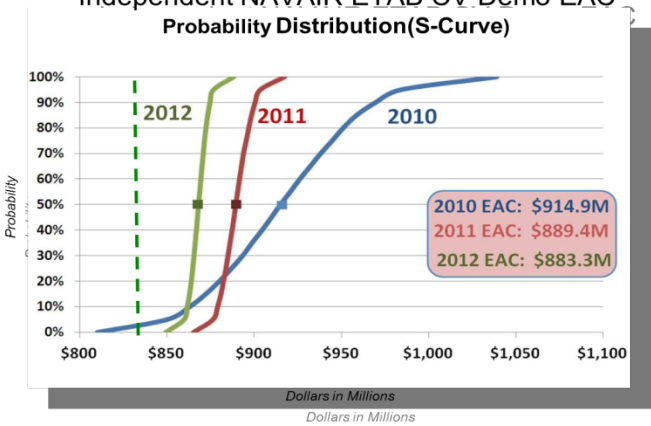
CPI/SPI Snapshot – 11 May 2012



ACTIONS TAKEN – APRIL 2012

1. Close AV-2 Hydraulic RCCA and FLY
2. Re-focus U5.0 functionality and timeline
3. Fly U4.5.2 at Patuxent River in June
4. Use of surrogate testing to achieve Government CCA CONOPS Testing Objectives
5. Implement two Affordability Initiatives
   1. No certification of X-47B autonomous CCA software
   2. Stop work on BLOS C2 functionality
6. Ensure four CVN installations support potential FY13 East Coast demonstrations (CVN-75, CVN-69, CVN-77, CVN-71)

Independent NAVAIR ETAB CV Demo EAC



ptimized Program Plan Continued to Meet original 2007 Acquisition Objectives

“What Keeps the CAPT up at Night?”

- Affordability
- Risk Management
- Decision Making
- Bureaucracy

Do Not Settle for “That’s the way we do it around here!”
…Action the first 90 days is critical…

Principles for Success

General Kadish – 5 Principles

1. Knowledge is Power
2. Unity of Purpose
3. Change the Defining Story
4. Break the Power Centers
5. Change the Workforce

PMA-268 LESSONS

- Daily email updates, control the message
- Handle troublesome employees
- Develop guiding coalition before needed
  - Peers, Leaders, Stakeholders
- TEAM UCAS (East, West, AS, CVN)
  - There is no “they” – use a name
- Established Program Integration Team
  - POG, Processes, Standardization

PMA-268 Accountability Board

Communicate VISION 95% of the tim

- Repetition - Affordability example

Time is Money, Money is Time

Fanatical about Weekly EVM/Metrics

- iMOM ~~PM-MCC~~ >

Business Cadence (daily, weekly, monthly)

Joint Governance (Govt/Industry)

Integrated Government Scheduling

Greater focus on Opportunities / Ris

regular eTAB and SRA

Future Vision: OASuW Increment 1 LRASM

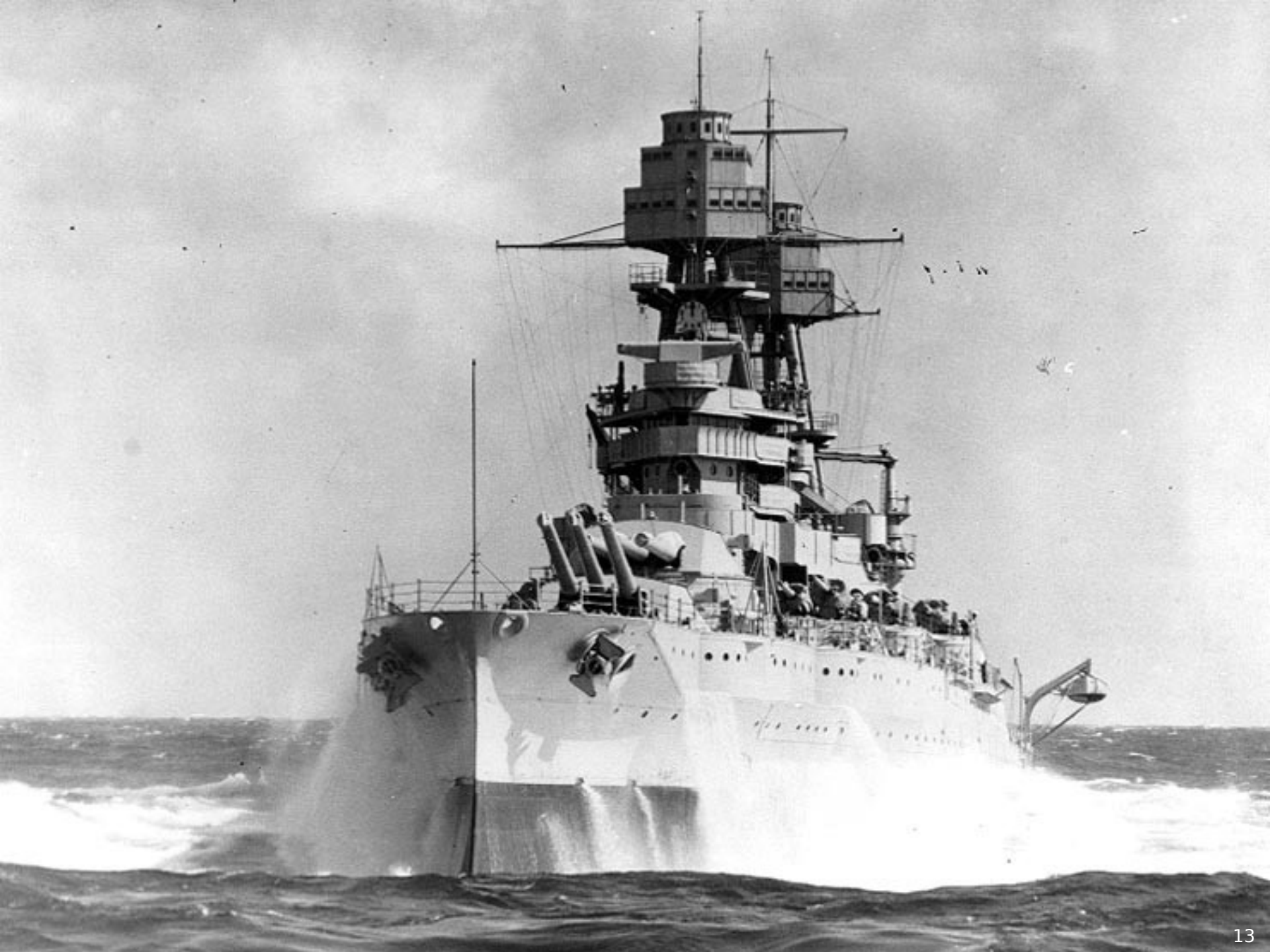
- **Urgent Operational Need to field advanced OASuW capability in Pacific Theater**
- Provide the fleet leap-ahead OASuW technologies in an accelerated timeframe
  - Long Range / Expanded OASuW Engagement Envelope
  - Multi-mode Seeker
  - Autonomous Guidance Algorithms
  - Increased Lethality
  - Reduce reliance on ISR Targeting, Network Links, and GPS Navigation
  - Leveraging mature JASSM-ER airframe

- **Utilize an *innovative, streamlined, and agile* management approach**
  - "Pioneer" DoD 5000.02 Model 4 Accelerated Acquisition program
  - ea

Final Thoughts for Critical Thinking

- It’s All About Honesty, Vision, and Culture
- Challenge Everything… …Thoughtful Questions…
- Take Time to do Strategic, Critical Thinking
- Value Diverse Opinions and Incentives
- How do you make critical program Decisions?
- How do you Really know what is REAL? What is OPINION?
- Take time to READ (Heros, Leadership, History)

- Reaffirm Family Commitment
- Do not forget your Personal Future and Goals
  - Physical Fitness
  - Life after the Navy



The Third Offset Strategy: Unmanned Systems and Weapons

Defense Innovation Initiative Technologies

Unmanned

- Robotics
- Autonomous Systems
- Miniaturization
- Big Data
- Advanced Manufacturing

Weapons

Precision Strike Weapon Initiatives

1. Acquisition Innovation / Streamlining / Affordability
2. Integrated Warfighting Capability & Kill Chain Wholeness
3. Network & Communication Technologies
4. Weapon Modularity & Open Architecture
5. Advanced Guidance/Navigation/Seeker Technologies
6. Warheads/Survivability/Lethality
7. Performance/Propulsion Improvements
8. High Fidelity M&S, Live Virtual Constructive

Defense Innovation Initiative & Better Buying Power 3.0

Achieving Dominant Capabilities Through Technical Excellence and Innovation

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NAVAIR

PM Fundamental Principles

- FAMILY
- EXECUTION
- INTEGRITY
- PERSONAL ACCOUNTABILITY
- COMMUNICATION
- TEAMWORK
- PERSONAL EXCELLENCE
- FIT FOR LIFE
- STEWARDSHIP
- CONTINUOUS IMPROVEMENT

PMA-201

Program Manager's Guiding Principles

FAMILY: ***Spend time, be kind & serve one another. Make no room for regrets.***
Our people are our most valued assets

EXECUTION: ***Disciplined execution means doing what you said you would do, no question!***
Duty to Country
Innovative, Rapid, Managed Risk - "Fortune favors the bold"
Time is our most precious commodity. Schedule is everything!
80% solution today is better than 100% solution next week

INTEGRITY: ***Have the courage to face the truth. Do the right thing because it is right.***
Credibility in Acquisition
Trust begets Trust
Know your ethics boundaries, cold

PERSONAL ACCOUNTABILITY: ***Your reputation and your success depend on it…***
We will hold each other personally accountable for our job performance
PM Delegation of Authority
PM is ultimately accountable, let me understand and shoulder the final burden

COMMUNICATION: ***Communicate with timeliness, relevance, and clear meaning.***
Open, transparent, timely communication is critical
No Surprises – Good news fades, bad news always gets worse with age
Speak your mind - Truth to power

TEAMWORK: ***Act openly and boldly to build and strengthen the TEAM.***
Collaboration, synergy is the key to success
A strong, united team briefs one message

PERSONAL EXCELLENCE: ***Demand and attain it in every endeavor, personal and professional.***
Be THE expert on your program
Lead from the front

FIT FOR LIFE: ***Sustained excellence requires physical, mental, moral, and spiritual strength.***
Physical fitness, goals and a healthy lifestyle are important
Read, think, reflect

STEWARDSHIP: ***Take pride in caring for our people and resources.***
Mentor your subordinates
Use our resources wisely and efficiently

CONTINUOUS IMPROVEMENT: ***To not learn and improve every day is to be left behind.***
Continuous Education
Career Development & Progression
Find "Game Changing" opportunity (Leadership training, Lean/6 Sigma, TPS)

17 January 2014 J.W. Engdahl

USD(AT&L) Better Buying Power 3.0

Achieving Dominant Capabilities through Technical Excellence an Innovation

Achieve Affordable Programs
- Continue to set and enforce affordability caps

Achieve Dominant Capabilities While Controlling Lifecycle Costs
- Strengthen and expand "should cost" based cost management
- Build stronger partnerships between the acquisition, requirements, and intelligence communities
- Anticipate and plan for responsive and emerging threats
- Institutionalize stronger DoD level Long Range R&D Planning

Incentivize Productivity in Industry and Government
- Align profitability more tightly with Department goals
- Employ appropriate contract types, but increase the use of incentive type contracts
- Expand the superior supplier incentive program across DoD
- Increase effective use of Performance-Based Logistics
- Remove barriers to commercial technology utilization
- Improve the return on investment in DoD laboratories
- Increase the productivity of IRAD and CR&D

Incentivize Innovation in Industry and Government
- Increase the use of prototyping and experimentation
- Emphasize technology insertion and refresh in program planning
- Use Modular Open Systems Architecture to stimulate innovation
- Increase the return on Small Business Innovation Research (SBIR)
- Provide draft technical requirements to industry early and involve industry in funded concept definition to support requirements definition
- Provide clear "best value" definitions so industry can propose and DoD can choose wisely

Eliminate Unproductive Processes and Bureaucracy
- Emphasize Acquisition Executive, Program Executive Officer and Program Manager responsibility, authority, and accountability
- Reduce cycle times while ensuring sound investments
- Streamline documentation requirements and staff reviews

Promote Effective Competition
- Create and maintain competitive environments
- Improve technology search and outreach in global markets

Improve Tradecraft in Acquisition of Services
- Increase small business participation, including more effective use of market research
- Strengthen contract management outside the normal acquisition chain
- Improve requirements definition
- Improve the effectiveness and productivity of contracted engineering and technical services

Improve the Professionalism of the Total Acquisition Workforce
- Establish higher standards for key leadership positions
- Establish stronger professional qualification requirements for all acquisition specialties
- Strengthen organic engineering capabilities
- Ensure the DOD leadership for development programs is technically qualified to manage R&D activities
- Improve our leaders' ability to understand and mitigate technical risk
- Increase DoD support for Science, Technology, Engineering and Mathematics (STEM) education

Continue Strengthening Our Culture of:
Cost Consciousness, Professionalism, and Technical Excellence